

PELLAEA SANTAROSENSIS (HEMIPTERA: PENTATOMIDAE),
A NEW SPECIES FROM COSTA RICA

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Abstract.—*Pellaea candens* (Distant, 1890) is placed in the synonymy of *Pellaea stictica* (Dallas, 1851), and *Pellaea santarosensis*, a new species from Costa Rica, is described. A lectotype is designated for *Rhaphigaster sticticus* Dallas, 1851.

The genus *Pellaea* Stål, 1872, has until recently contained three nominal species: *P. stictica* (Dallas, 1851), with the synonym *Pentatoma aspera* Walker, 1867, and an unavailable synonym, *Nezara nebulosa* Distant, 1891, whose interesting history is discussed by Froeschner (1981); *P. candens* (Distant, 1890); and *P. panamensis* (Distant, 1890), a species transferred by Rolston (1983) to *Acrosternum* Fieber subgenus *Chinavia* Orian.

Dallas (1851) described *P. stictica*, as *Rhaphigaster sticticus*, from three specimens, but only one of these can now be found in the British Museum (Natural History). This male, here designated lectotype, bears the following labels: (a) "Type" on red-edged disk, (b) "44/85" on one side of white disk and "B. Guiana" on other side, and (c) "*Rhaphigaster sticticus*" cut from Dallas's publication. The specimen lacks antennal segment 5 on the left, segments 4 and 5 on the right, left anterior and posterior tarsi, and right anterior leg.

After examining the crushed and broken female holotype of *P. candens*, described by Distant (1890) as *Nezara candens*, I conclude that this specimen is a callow example of *P. stictica*. The features by which Distant characterized *P. candens*, insofar as the condition of the holotype permits comparisons, fall within the range of variation exhibited by female specimens of *P. stictica*.

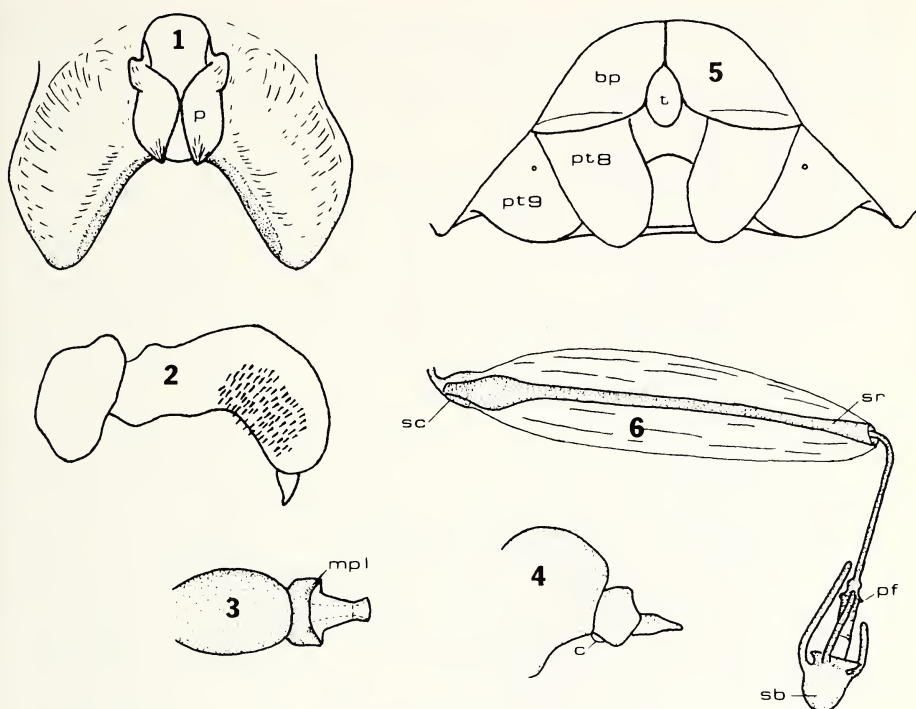
There is, however, a second species of *Pellaea*, a description of which follows.

***Pellaea santarosensis*, new species**

(Figs. 1-10)

Description. Castaneous to light castaneous dorsally, often with rufous suffusion along anterolateral margins of pronotum and on head; connexiva sometimes rufous, usually with 2 subcircular black to metallic green macules on each segment, 1 in each lateral angle. Ventral surfaces light castaneous, usually with irregular rufous suffusion, or entirely rufous.

Punctuation on head dark castaneous to black; most punctures in 2 longitudinal bands on each jugum, these bands continuing onto vertex, the lateral band on each side hooking laterad around ocellus. Width of head across eyes 3.0-3.3 mm, length 2.4-2.7 mm; interocular width 1.8-1.9 mm. Superior surface of antennifers with

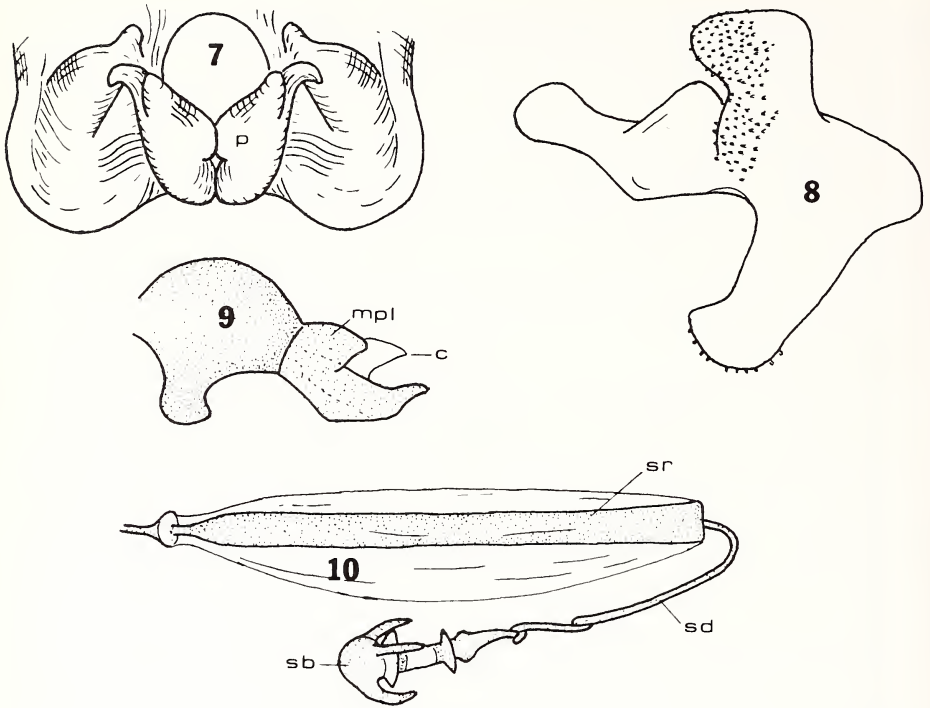


Figs. 1–6. *P. santarosensis*. 1. Genital cup; paramere (p). 2. Left paramere, lateral face. 3. Distal part of aedeagus, dorsal view; median penial lobe (mpl). 4. Same, lateral view; conjunctiva (c). 5. Genital plates, caudoventral view; basal plate (bp); 8th paratergite (pt8); 9th paratergite (pt9); triangulum (t). 6. Distal part of spermatheca; spermathecal bulb (sb); proximal flange (pf); sclerotized rod (sr); sclerotized cap (sc).

black to metallic green macule. Basal 2 segments of antennae black laterally, this mark enveloping segment 2 apically to varying extent; segment 3 black, a narrow pale ring covering basal joint; distal 2 segments fuscous to light brown, paler basally; length of segments 0.6–0.7, 1.2–1.3, 1.4–1.6, 1.4–1.5, 1.3–1.5 mm. Rostral segments 2–4 about 1.6–1.8, 1.2–1.5, 1.0–1.1 mm long; last segment fuscous, apex between metacoxae.

Most punctures on pronotum arranged in transverse, vermiform, dark castaneous lines separated by polished interstices, most of these calloused, rarely in part ivory, and contrasting strongly with remaining interstices. Humeri obtusely rounded, not produced; anterolateral margins of pronotum straight to slightly convex; densely punctate depressed line along anterior submargin interrupted mesially; pronotal width at humeri 7.0–7.8 mm, mesial length 2.7–3.0 mm.

Punctuation of scutellum and coria somewhat irregularly disposed, a few subcalloused impunctate lacunae often present on coria. Scutellar width at base 4.7–5.2 mm; length 5.1–5.8 mm, 6–12% greater than basal width. Hemelytral membranes fumose.



Figs. 7-10. *P. stictica*. 7. Genital cup; paramere (p). 8. Left paramere, lateral face. 9. Distal part of aedeagus; median penial lobe (mpl); conjunctiva (c). 10. Distal part of spermatheca; spermathecal bulb (sb); spermathecal duct (sd); sclerotized rod (sr).

Ventral surface of head virtually impunctate; punctation of pleura moderate, consisting in part of minutely darkened punctures; punctation of abdominal venter fine, undifferentiated by color. Most setae on distal part of femora and along each tibial sulcus arise in black dot; some dots on superior surface of femora may be enlarged and confluent, most often on hind femora; superior femoral surface not prolonged distally into spine; each tibial sulcus usually with black macule basally, occasionally much of sulcus black. Spiracles narrowly ringed with black.

Basal plates posteriorly bent dorsad at nearly right angle; greatest dimension from bend to posterior margin subequal to $\frac{1}{2}$ length of remainder of plate; mesial margin concave apically, exposing triangulum (Fig. 5). Both 8th and 9th paratergites concave basally. Spermathecal bulb bearing 3 slender diverticula of unequal lengths (Fig. 6). Spermathecal duct enlarged proximad of proximal flange; membranous dilation surrounding sclerotized rod attached proximally to sclerotized cup.

Pygophore deeply and widely emarginate ventrally; ventral margins black; inferior ridge large, exposed fully from caudal view. Parameres in form of stout hook with large apical tooth curving ventrad, their apices hanging over inferior ridge and visible from caudal view; lateral surface of each with field of stout pegs (Figs. 1, 2), invested

generously with long hairs. Median penial lobes forming cup around ejaculatory duct; conjunctiva reduced to ventral remnant (Figs. 3, 4).

Holotype. ♂ labeled "Santa Rosa National Park, Guanacaste Prov. COSTA RICA. 2-4 May, 1980. D. H. Janzen & W. Hailwachs" Deposited in the American Museum of Natural History.

Paratypes. 25♀♀, 14♂♂;¹ labeled as holotype (2♀♀, ♂ in each of following institutions: AMNH, BMNH, CAS, FSCA, NR, NMNH; ♀ RNH, ♀ 2♂♂ LHR); labeled as holotype except date "7-8 May 1980" (2♀♀ LHR); labeled as holotype except date "5-7 June 1980" (♀ UP); labeled as holotype except date "16-18 Jul 1980" (♀ RNH); labeled as holotype except date 9-17 Mar 1981 (2♀♀ DBT); labeled as holotype except date 1-15 Jun 1982 (2♀♀, ♂ UFRGS, ♂ RNH, ♀ LHR, 3♂♂ UP, ♂ DBT); labeled as holotype except date "15-31 Jul 1982 (♀ UP); "Santa Rosa Nat. Pk. Prov. Guanacesta COSTA RICA 12-14 Dec 1979, D. H. Janzen (♀ UP).

Comments. This species differs notably from *P. stictica* in the form of the pygophore, parameres, genital plates, spermatheca, absence of a spine at the apex of the femora, and ventral markings. In *P. stictica* the concavity on each side of the genital cup is interrupted by an obtuse, diagonal carina (Fig. 7); the parameres are elaborate (Fig. 8); the 8th paratergite is slightly convex basally, the 9th paratergite nearly flat basally, and the margin of the basal plates usually straight with the plates contiguous, although sometimes the medial angle of each is diagonally truncated; the diverticula of the spermathecal bulb are subequal in length and the duct between the proximal flange and sclerotized rod is at least ½ longer than in *P. santarosensis* (Fig. 10); the superior surface of the femora is prolonged distally into a small, angulate tooth; and the venter has many large, black macules, with each spiracle in a large spot. The aedeagus is similar but distinctive in the 2 species (Figs. 4, 9).

In the key to genera by Rolston and McDonald (1981), couplet 14 should be replaced by the following:

14. Most punctures on pronotum arranged in transverse, vermiform lines separated by polished, calloused interstices *Pellaea* Stål
 — Pronotal punctures rather evenly disposed, or if not interstices not calloused 15

ACKNOWLEDGMENTS

I am indebted to Daniel H. Janzen, University of Pennsylvania, for the specimens of *Pellaea santarosensis* and to W. R. Dolling, British Museum (Natural History), for the privilege of examining relevant type material.

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¹ Paratype Depositories: American Museum of Natural History (AMNH); British Museum (Natural History) (BMNH); California Academy of Sciences (CAS); Donald B. Thomas (DBT); Florida State Collection of Arthropods (FSCA); author's collection (LHR); National Museum of Natural History (NMNH); Naturhistoriska Riksmuseum, Stockholm (NR); Rijksmuseum van Natuurlijke Historie (RNH); Universidade Federal do Rio Grande do Sul (UFRGS); University of Pennsylvania (UP).

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Received November 22, 1983; accepted April 10, 1984.